MUSCULAR CONTRACTILITY IN CATALEPSY AND TETANY.—At the session of the Société de Biologie, March 11, M. Onimus made the following communication, as reported in the *Gaz. des Hopitaux*, No. 31.

We have observed, said he, in a case of catalepsy and in a case of tetany, certain electro-muscular phenomena which may afford important indications as to the nature of these affections.

In the cataleptic patient who was in the care of the surgeon, M. Despris, we observed that the contractility to induced currents was feebler than normal, hut that it was present in all the muscles. Movements provoked by the induced-current did not maintain the members in the position so obtained, only after the contraction had lasted a certain time, while they retook their old positions at once if the current had only been passing a few seconds.

The position of tbe members caused by the artificial contraction therefore remains permanent only after the muscles have been held in a tetanic condition for some time by the induced current.

The application of continuous currents applied directly to the muscles causes them to contract only with difficulty, and in electrising the muscular nerves with these currents, while we obtain contractions a little more easily, they are always feeble and insignificant. There is therefore in catalepsy a very well marked diminution of the excitability of the nervous system, and, moreover, when we compare these phenomena with those observed in the striated muscles in peripheral paralysis, in which the muscular contractility to the constant current is augmented, proving that these muscles approach then the condition of the unstriated fibres and the contractile protoplasmic substance, we see that the phenomena are directly opposed to each other. We may, therefore, conclude that the modification undergone by the muscles in catalepsy, is not in the direction of the retrogressive phenomena, but that it rather has much analogy with the state of contracture, or rather of rigidity. It is, in fact, in cases of this kind that we meet with this diminution of the electro-muscular contractility and under the same relations. But the most manifest peculiarity of catalepsy is the slight excitability of the nervous system.

When we cause to pass through a member for a considerable time a a current of thirty or forty elements the muscles become slightly more supple. Electrization of the upper cord by these same currents increases both the rapidity and force of the pulse.

We have observed a considerable excitability of the motor nerves and of these alone, in a young girl affected with an essential contraction of the extremities. With a very feeble descending current of eight elements, not at all felt by the patient, we obtained a marked contraction, and the contraction of the fingers sensibly increased during the time of the passage of the current; the galvano-tonic contractility was in this case exceedingly easy to produce. With induced currents the contractility was a little exaggerated, but otherwise presented nothing in particular.

With an ascending current, on the other hand, there was no contraction; at the moment of the closing of the current and during its passage, the contracted muscles instead of becoming more contracted show a rather

pronounced relaxation. Only at the moment of interrupting the current was there a contraction and a slight exaggeration of the contracture.

But, the cessation of the ascending current having taken place, there is as we have long since tried to show, a descending current of polarization; it is always by this descending current that the exaggeration of the excitability occurs. In this case this influence of the descending current was more evident and more easy to produce, than in any physiological experiment we have ever observed.

The results thus obtained with constant currents, permit us to affirm that in the essential contractures of the extremities, it is not the muscles that are primarily affected, nor even the nervous system in general, but that the pathological change is in the motor nerves, for it is on these nerves that the descending current acts.

The contractures in this affection do not appear to us to be due to a reflex action, since the excitability is even diminished for the sensory nerves; they are caused only by an abnormal excitability of the motor nerves.

These observations in this case of tetany coincide in great measure with those made by M. Erb, who has also seen the attack of tetany cease under the influence of the ascending current.

Electricity, may, therefore, not only aid us in the diagnosis, but, as we see by these examples, it can even show us the nature of certain obscure disorders.

General Progressive Paralysis in its Relation to Syphilis.—A posthumous paper on this subject, by Dr. Jespersen has recently been published, and embodies some very interesting statistics.

The author refers briefly to the impressions prevailing among investigators concerning the syphilitic origin of paresis. Before 1837, when Esmarch and Jessen brought forward their well-known hypothesis, no one had definitely affirmed that syphilis was the cause. Several recent authors have published histories of a few cases where syphilis had been present, but, in reality, Steenberg, Kjellberg, and Sandberg are the first who investigated the question with thoroughness. The author had the opportunity of examining all that could be ascertained with regard to a syphilitic history in 123 paralytic patients treated at the St. Han's Hospital between January, 1863 and May, 1872. Among them, constitutional syphilis was found to be present in 83; chronic in 6; "syphilis in the highest degree probable" in 6; in 13 had been "a genital affection, gonorrhœa, or the like, which might possibly indicate syphilis;" and in 15 there was nothing indicative of syphilis.

Of 59 the author could state pretty accurately how long after the acquisition of syphilis the paresis commenced; 5 to 9 years in 34; 10 to 14 in 15; 15 to 19 in 13; 20 to 28 years in 7. In a considerable number of cases he ascertained what form of syphilis had preceded the paresis. Generally they had been mild cases, and not the rarer destructive forms